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WRITTEN BACKUP FOR TESTIMONY BEFORE: The US Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service Public Hearing at the Renaissance Hotel, 9620 Airport Boulevard, Los Angeles, CA on 26 April 2001.

REGARDING THE: US Navy's application for a Letter of Authorization for Taking Marine Mammals Incidental to Navy Operations of Surveillance Towed Array Sensor System Low Frequency Active (SURTASS LFA) Sonar [Docket No. 990927266-0240-02; I.D. 072699A]

My name is Mark J. Spalding. I am a member of the faculty of the Graduate School of International Relations and Pacific Studies. I have been doing research regarding international environmental policy and law relevant to marine mammals for nearly a decade. I would like to make four points:

Ocean noise is already causing acoustic disturbance, injury and even death to marine mammals.

- Ocean noise is comprehensive, worldwide and ubiquitous.
- Some is from classified sources; much is from regular ship traffic.
- Loud anthropogenic sound can mask over biological/natural sounds that may be crucial for marine mammals to hear.
- Noise may cause marine mammals to abandon traditional habitats.
- Low Frequency Active Sonar (known as LFA) and other active (as opposed to passive) sonar is only the most recent serious noise threat to marine mammals.

A Letter of Authorization for Taking Marine Mammals will allow such noise pollution to expand and continue.

The Navy cannot prove "no impact" from LFA

The burden of proof of harmlessness of a new development normally lies with the proponents, not with the general public. As part of an ongoing research project regarding threats to marine mammals,¹ I have identified sound or acoustic pollution as a threat noted by many sources, including the following:

- Sound pollution in the ocean is a key long-term issue. Not just LFA, but also cumulative effects of all ship traffic and other noise. We need to understand how is it affecting whales. (Croll)
- We know we can cause physical trauma to marine mammals with loud noise. We also believe that recurrent sound can cause permanent harm over time. (Potter)
- Since 1974 there have been seven documented instances of mixed species strandings (mixed species is very rare) that were associated with Navy activity involving active sonar systems. (Weilgert)
- "Undersea noise pollution is like the death of a thousand cuts. The noise from shipping, seismic surveys, and military activity is creating a totally different environment than existed even 50 years ago. That high level of noise is bound to have a hard sweeping impact on life in the sea." (Earle)
- "I am very concerned that sound is being used for industrial, scientific and military purposes, at such high intensities that it may be harming whales and dolphins. The oceans are becoming more and more polluted by sounds from many sources. Each additional insult further undermines the quality of the ocean environment for its residents." (Cousteau)
- The only likely candidate for communication among whales is sound. "Large whales have well-developed inner ears and exceptionally well-developed acoustic areas in their brains. This suggests that sound is important to them." (Payne, 1995: 171)

The bottom line is we don't know enough about whales and we can't know enough about sound in the ocean. Thus, the Navy cannot prove there will be no harm to whales' communications, reproduction, feeding, navigation or migration. And, the burden of proof is on the Navy. At present, it is not possible to prove the absence of impact in this case, given our limited knowledge of the ocean and its animals. In the absence of scientific certainty, we the people of the United States of America should not proceed with the deployment of this system. Thus a Letter of Authorization for Taking Marine Mammals should not be issued.

There is a potential for an impact on business

The whale watching industry worldwide is a \$1 billion per year tourism service sector. The value of this business in the US is estimated at \$357 million, in Canada at \$195 million and in Mexico at \$40 million (Hoyt, 2000). If the pollution of the ocean with sound, including active sonar, harms whales or causes them to change migratory or habitat locations, that pollution will constitute a threat to this industry. For

¹ Summary of Threats

Threats	Impacts
Direct Fisheries Interactions (Operational Interactions)	Accidental entanglement in gillnets and other fishing gear causing injury and death. The mortality rate for some species is so high there is a risk of extinction.
Overfishing by Humans (Biological Interactions)	Overfishing by humans of resources relied upon by whales is contributing to their decline. Marine mammals are also wrongly blamed for fisheries depletion and thus exterminated like pests.
Marine Debris	Whales are injured and killed by ingestion of or entanglement in marine debris. There may also be a link between pollution and lowered immunity levels.
Loss of Habitat	The physical destruction of important expanses of natural habitat is a significant contributor to the decline of whales.
Ship Collisions	For some species of Whales collisions with ships is a major cause of mortality.
Sound Pollution	Ocean noise is causing acoustic disturbance, injury and even death to whales.
Whaling	There is a resurgent effort to undertake whaling operations.
Climate Change and Ozone Depletion	These atmospheric changes will impact the ocean's productivity and are expected therefore to have an indirect negative impact on whales.
Bioaccumulation of Toxins	Direct mortality, reproductive impairment, and increased susceptibility to disease.

(from Spalding, forthcoming)

example, at least one species of whales has failed to return to the vicinity of the Bahamas following active sonar tests there in the Spring of 2000. Maritime defense and security is a legitimate use of the world's oceans, however it must not be practiced in a way that excludes or permanently damages other shared uses of the ocean. Until there can be an assurance of no harm to other shared uses of the ocean, a Letter of Authorization for Taking Marine Mammals should not be issued.

This is an international issue which will be detrimental to US foreign relations

This is an international issue, not just a domestic one. Because LFA would be deployed to reach 80% of the world's oceans, it is a global noise-producing system. As such, the LFA deployment would run contrary to a developing history of international cooperation and consensus on preventing ocean pollution:

- Convention on Nature Protection and Wild Life Preservation in the Western Hemisphere (1940)
- International Convention for the Prevention of Pollution of the Sea by Oil (1954)
- International Convention on Civil Liability for Oil Pollution Damage (1969)
- International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (1971)
- Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (1972)
- International Convention for the Prevention of Pollution from Ships (MARPOL) (1973) [currently covers oil and other noxious liquids, trash and other packaged substances, sewage, and air pollution]
- United Nations Convention on the Law of the Sea (1982)

"One important way that regulations in general appear on the international scene is through the internationalization of regulations that one or more countries have undertaken domestically" (DeSombre, 2000: 2). Many nations recognize acoustic pollution on land and in the air, including in workplace safety standards and requirements for commercial aircraft, it is only a matter of time before noise pollution is recognized in our oceans. Discussions regarding ocean noise pollution are already taking place within the context of the International Whaling Commission and the International Maritime Organization.

The Navy cannot keep the sound from its active radar systems out of the Exclusive Economic Zones of other nations, nor can it confine it to the EEZ of the US. More importantly, there is no way to prevent noise from entering marine protected areas including internationally recognized Natural World Heritage sites or marine oriented UNESCO Biosphere Reserves. Because of the potential for a "taking" of living marine resources, and the intentional long distance propagation of sound from active sonar, it does not even lend itself to traditional concepts of military warning zones used to keep others out of sensitive Navy operating or research areas.² With these issues in mind, I wonder if the US is in compliance with the 1991 Convention on Environmental Impact Assessments in a Transboundary Context.³ Has the required notification and consultation of other nations taken place?⁴ Full compliance with this convention should be a prerequisite for the issuance of a Letter of Authorization for Taking Marine Mammals.⁵ According to the Bahamian environmental group reEarth Nassau, the US did not even give notice to the Ministry of Foreign Affairs of the Government of the Bahamas regarding its Spring 2000 test of mid-range active sonar.

² Of course the enforcement of such naval exclusion and warning zones have always been somewhat contrary to the long-standing concept of freedom of the seas, but reasonable use has been asserted (Hunt, 1990: 11). Regardless whales would not receive the warnings in the first place.

³ Appendix III of this convention requires notification and consultation for large size events in environmentally sensitive areas with serious potential effects.

⁴ The 1982 UN Convention on the Law of the Sea (UNCLOS) would also require notification and consultation with other nations. UNCLOS Article 194 seeks to limit pollution of the Sea, Article 198 requires notification of imminent damage, and Article 206 requires assessment of potential effects of activities. I acknowledge that the UNCLOS may only constitute customary international law and not a treaty obligation for the US.

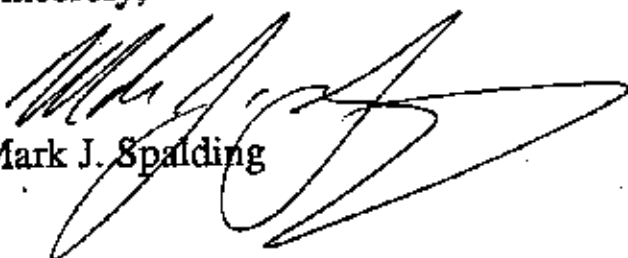
⁵ For an additional discussion of the duty to warn regarding abnormally dangerous activity, see Kelson, 1972: 243.

The oceans are our common heritage. This creates a significant responsibility for all nations. If the Office of Protected Resources of the National Marine Fisheries Service approves the request of the Navy to deploy its LFA system, the US will be abrogating the opportunity to take a leadership position on the prevention of noise pollution in the oceans. Once again, the US will be considered a rogue nation on an important environmental issue. Worse, it may set a bad example in which other nations follow suit. In other words, I fear an active sonar arms race whose cumulative impact on the oceans would be devastating. Each nation would pursue its rational self-interest, but in the end would create a situation in which all would lose.

For all the reasons stated above, I respectfully request that the Office of Protected Resources of the National Marine Fisheries Service deny the Navy's request for a Letter of Authorization for Taking Marine Mammals Incidental to Navy Operations of Surveillance Towed Array Sensor System Low Frequency Active (SURTASS LFA) Sonar.

Thank you for your time and consideration.

Sincerely,



Mark J. Spalding

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